

ARAN GARCIA-BELLIDO

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Personal Details

Date of birth: 12th of June, 1976
Place of birth: Madrid, Spain
Citizenship: Spanish
Gender: Male
Marital Status: Single

Research Positions and Experience

11/2002–present At Fermilab, member of the DØ collaboration. Postdoctoral research associate with the University of Washington, Seattle.

- **Since December 2004. Co-convenor of the Single Top Analysis Group.**
- **August 2006-March 2007. Co-leader of the V+jets taskforce.**
- **August 2004-August 2005. Co-convenor of the Tracking and Vertexing Group.**
- **Since August 2003. Data Acquisition System on-call expert and on-site principal contact.**
- **Since June 2003. Internal referee for the analyses on $t\bar{t}$ production with b-tagging.**
- **Since May 2007. Referee for IEEE Transactions on Nuclear Science.**

4/2001–2/2002 At CERN, with support from CERN.
Developed novel analysis channel search in supersymmetry for the ALEPH Searches Task Force. Combined all ALEPH searches in a model-independent general scan of supersymmetric scenarios. Worked for the LEP Combination SUSY Working Group.

3/2000–10/2000 At CERN, with support from PPARC.
Level 2 Trigger Coordinator and Data Manager shifts in the ALEPH experiment. Performed search on RPV scenarios of supersymmetry with ALEPH data.

University Education

1999–2002 PhD. Royal Holloway University of London, UK.
Thesis: “Searches for Gauge Mediated Supersymmetry Breaking at ALEPH with centre-of-mass energies up to 209 GeV”
Supervisor: Prof. Grahame A. Blair

1994–1999 Graduate in Physics at Universidad Complutense de Madrid, Spain.
Specialization in Astrophysics, with specific research projects on radio-astronomy (VLBI) and stellar atmosphere modeling.

Refereed Publications

As Main Editor:

1. *Evidence for production of single top quarks at $D\bar{O}$* . In preparation. To be submitted to Phys. Rev. D.
2. *Evidence for production of single top quarks and first direct measurement of $|V_{tb}|$* . Phys. Rev. Lett. 98, 181802 (2007). Fermilab-PUB-E 06/475.
3. *Multivariate searches for single top quark production with the $D\bar{O}$ detector*. Phys. Rev. D75, 092007 (2007). Fermilab-PUB-E 06/069.
4. *Search for single top quark production in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV*. Phys. Lett. B622 (2005) 265-276. Fermilab-PUB-E 05/207.
5. *Searches for gauge mediated SUSY breaking topologies in e^+e^- collisions at centre-of-mass energies up to 209 GeV*. Eur. Phys. J. C25 (2002) 339-351; CERN-EP/2002-021.

Appear as author in 66 publications from $D\bar{O}$ and 38 publications from ALEPH.

Non Refereed Publications

As Main Editor:

1. *Evidence for single top quark production at $D\bar{O}$* . Proceedings of XLII Rencontres de Moriond, Electroweak Interactions and Unified Theories. Fermilab-CONF-E 07/144.
2. *The L3-DAQ system in $D\bar{O}$: operation and upgrades*. Proceedings of the Real Time 2007 Conference. Fermilab-CONF-E 07/114.
3. *Looking for single top quarks in $D\bar{O}$ data*. Proceedings of the International Meeting on Fundamental Physics. El Escorial, Spain, April 2006. Fermilab-CONF-E 06/521.
4. *Top quark properties at the Tevatron*. 15th Topical Conference on Hadron Collider Physics, AIP Conference Proceedings vol. 753 (2005) 224-233.
5. *Searches for gauge mediated SUSY breaking at LEP*. 10th International Conference on Supersymmetry and Unification of Fundamental Interactions, Proceedings Hamburg vol. 2 (2002) 967-972.
6. *Searches for gauge mediated SUSY breaking topologies in e^+e^- collisions at centre-of-mass energies up to 209 GeV*. Eur. Phys. J. C25 (2002) 339-351; CERN-EP/2002-021.
7. *Search for GMSB and AMSB at LEP*. 7th Topical Seminar on The Legacy of LEP and SLC, Siena October 2001. Nucl. Phys. B (Proc. Suppl.) 109B (2002) 236-241.
8. *Searches for Gauge Mediated SUSY breaking topologies at $\sqrt{s} = 189-208$ GeV*. ALEPH Contribution #239-240 to the International Europhysics Conference on High Energy Physics, Budapest July 2001. ALEPH 2001-053/CONF 2001-033.

As co-Author:

1. *Tevatron-for-LHC Report: Top and Electroweak Physics*. FERMILAB-CONF-07-052-E-T. hep-ph/0705.3251.
2. *Improved search for single top quark production at $D\bar{O}$ in Run II*. Contributed paper to the 2005 Winter Conferences. $D\bar{O}$ Note 4722.

3. *Search for single top quark production at $D\bar{D}$ in Run II.* Contributed paper to the 2004 Summer Conferences. $D\bar{D}$ Note 4510.
4. *Search for R -Parity violating decays of supersymmetric particles in e^+e^- collisions at centre-of-mass energies between 189–208 GeV.* ALEPH Contributed paper to the 2001 Winter Conferences. ALEPH 2001-012/CONF 2001-009.

Presentations at Conferences

May. 2007	“The Level 3 DAQ system at $D\bar{D}$: operation and upgrades” 15 th IEEE NPSS Real Time Conference. Fermilab, Batavia, Illinois, USA.
Mar. 2007	“Evidence for single top quark production at $D\bar{D}$ ” XLII Rencontres de Moriond. Electroweak Interactions and Unified Theories. La Thuile, Italy.
Apr. 2006	“Search for single top quark production at $D\bar{D}$ ”. International Meeting on Fundamental Physics. El Escorial, Madrid, Spain.
Oct. 2005	“The lonesome top quark” (poster) Top Turns Ten Symposium. Fermilab, Batavia, Illinois, USA
Apr. 2005	“Single top quark searches at the Tevatron” TeV4LHC Workshop. CERN, Geneva, Switzerland.
Jun. 2004	“Top quark properties at the Tevatron” Hadron Collider Physics. East Lansing, Michigan, USA.
May 2004	“Recent results from the high energy frontier” APS North West Meeting. Moscow, Idaho, USA.
Apr. 2004	“Single top quark searches in muon+jets channel at $D\bar{D}$ ” Pheno 2004. Madison, Wisconsin, USA.
Jun. 2002	“GMSB searches at LEP” SUSY02. DESY, Hamburg, Germany.
Apr. 2002	“Gauge mediated SUSY breaking searches in ALEPH” Institute of Physics Congress 2002. High Energy Physics Conference. Brighton, UK.
Oct. 2001	“Searches for GMSB and AMSB at LEP” Seventh topical Seminar on the Legacy of LEP and SLC. Siena, Italy.

Other Conferences and HEP Schools Attended

Jan. 2006	International Workshop on Top Quark Physics. Coimbra, Portugal.
Apr. 2005	Top Quark Symposium. Ann Arbor, Michigan, USA.
Sep. 2004	TeV4LHC Workshop. Fermilab, Batavia, Illinois, USA.
Aug. 2003	Lepton-Photon 2003. Fermilab, Batavia, Illinois, USA.
Sep. 2001	2001 European School of High Energy Physics. Beatenberg, Switzerland.
Sep. 2000	2000 Summer School for Young High Energy Physicists. Rutherford Appleton Laboratory, Abingdon, UK.
Jul. 2000	Conference on Cosmology and Particle Physics CAPP2000. Verbier, Switzerland.

Internal Notes

1. "Improved search for single top quark production using the matrix element analysis technique in 1 fb^{-1} of data", DØ Note 5390.
2. "A second look at Bayesian Neural Networks in the search for single top quarks in 1 fb^{-1} of data", DØ Note 5361.
3. "Combining results from single top cross section measurements using the BLUE method", DØ Note 5342.
4. "Combining the matrix element and boosted decision tree analyses to search for single top quarks in 1 fb^{-1} of data", DØ Note 5293.
5. "A neural network search for single top quarks in 1 fb^{-1} of data", DØ Note 5289.
6. "Using Bayesian neural networks to search for single top quarks in 1 fb^{-1} of data", DØ Note 5288.
7. "Search for single top quark production using the matrix element analysis technique in 1 fb^{-1} of data", DØ Note 5287.
8. "Using boosted decision trees to search for single top quarks in 1 fb^{-1} of data", DØ Note 5286.
9. "Search for single top quark production in 1 fb^{-1} of data", DØ Note 5285.
10. "Improved search for single top quark production using secondary-vertex tagging", DØ Note 4670.
11. "Search for single top quark production at DØ in Run II", DØ Note 4398.
12. "DØ top analyses and data sample for the Winter Conferences 2004", DØ Note 4419.
13. "Primary vertex certification in p14", DØ Note 4320.

Invited Talks, Seminars & Colloquia

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| Mar. 2007 | "NLO for heavy flavor W +jets"
Joint CDF-DØ Monte Carlo meeting, Fermilab, Batavia, Illinois, USA. |
| Mar. 2007 | "Moriond conference summary"
All DØ Meeting, Fermilab, Batavia, Illinois, USA. |
| Feb. 2007 | "Details of single top analysis at DØ"
Invited talk with discussion at CDF single top group meeting, Fermilab, Batavia, Illinois, USA. |
| Jan.-Mar. 2007 | "Evidence for production of single top quarks and first direct measurement of $ V_{tb} $ "
Instituto de Física Teórica. Universidad Autónoma de Madrid, Madrid, Spain.
IFAE Seminar, Instituto de Física de Altas Energías, Barcelona, Spain.
HEP seminar, Northeastern University, Boston, Massachusetts, USA.
Laboratory for Particle Physics and Cosmology, Harvard University, Cambridge, Massachusetts, USA.
Laboratory for High Energy Physics, Bern Universität, Switzerland.
Séminaire de physique corpusculaire, Université de Genève, Switzerland. |
| Jan. 2006 | "Search for single top at DØ"
HEP Seminar, Argonne National Laboratory, Argonne, Illinois, USA. |
| Sep. 2005 | "Are top quarks lonely?"
Physics Colloquium, University of Illinois at Chicago, USA. |

Jan. 2005	“Recent results from the Tevatron” IFIC Seminar, Instituto de Física Corpuscular, Valencia, Spain.
Jan. 2005	“Search for lonely top quarks at DØ” IFAE Seminar, Instituto de Física de Altas Energías, Barcelona, Spain.
May 2004	“Recent results from the Tevatron” EPE Seminar, University of Washington, Seattle, USA.
Feb. 2004	“Recent results from DØ” Instituto de Física Teórica. Universidad Autónoma de Madrid, Madrid, Spain.
Feb. 2001	“Searches for R-Parity violating decays of charginos at ALEPH” Royal Holloway University of London, London, UK.

Skills Summary

Language Knowledge	Spanish (native) English (fluent) French (very good level, spoken and written) German (basic level)
Computer Skills	Linux cluster administrator, proficient in MacOS and Windows Experienced in C++, Fortran, Python, Java, Perl, HTML, Mathematica, Root and PAW
Teaching Experience	2000–2002 First year undergraduate Physics Laboratory at RHUL 2002 Particle Physics Masterclass at RHUL
Outreach	Several one-hour talks at high-schools in Madrid and London devoted to public understanding of science
UTeV dean	In charge of organizing seminar talks for graduate students and post-docs at Fermilab during 2003. www.fnal.gov/orgs/utev